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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,414	07/18/2003	Peter Massaro	P00728.70009.US (REH)	4161
23628 7590 07/13/2007 WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			EXAMINER NAGPAUL, JYOTI	
			ART UNIT 1743	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/622,414

Applicant(s)

MASSARO, PETER

Examiner

Jyoti Nagpaul

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-9 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 10-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment filed on April 26, 2007 has been acknowledged. Claims 1,3-5 and 7-23 are pending.

Response to Amendment

Rejection of Claims 1-4 and 8-10 as being anticipated by Astle (US 5525302) has been modified in light of applicant's arguments and amendments.

Rejection of Claims 13 and 16-18 as being unpatentable over Astle in view of Schultz (US 6033911) has been modified in light of applicant's arguments and amendments.

Upon further consideration, Claims 5-7, 11-12, 14-15 and 19-23 as being objected to as being dependent upon a rejected base claim has been modified in light of applicant's arguments and amendments.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1,3-5 and 7-9** are rejected under 35 U.S.C. 102(b) as being anticipated by Astle.

Astle teaches a material handling tool comprising a tool body (20), a plurality of needles (70) mounted to the tool body (20), each of the plurality of needles (70) mounted to the tool body (20), each of the plurality of needles (70) constructed and

arranged to remove material from a work area and deposit material on a work area.

Astle further teaches a plurality of plungers (50) moveable in the tool body (20), each of the plurality of plungers associated with a corresponding one of the plurality of needles (70), wherein each of the plungers (50) has a passageway that allows fluid flow through the plunger. Astle further teaches a controller (300) constructed and arranged to individually address each of the passageways (60) so that flow in each of the passageways (60) is individually controlled. (See abstract) Astle further teaches the controller comprises a plurality of actuators (146) capable of opening and closing a corresponding passageway (60) and a plurality of drive switches/controlled valves (186,188,190,192 and 194) that controls flow through a passageway (60) opened by an actuator (146). Astle further teaches a plurality of control switches (LS1-LS9) that provide signals to the plurality of actuators to open and close a corresponding passageway. With respect to Claim 8, this claim appears to be a method step and is not germane to patentability in apparatus claims. Astle meets the structural limitations and thus is capable of performing this function. Astle further teaches wherein one portion of each plunger (50) is secured to a first portion (52) of the tool body (20) and a second portion of each plunger (50) is slidably engaged with a channel (60) in a second portion (40) of the tool body (20) such that the movement of the first portion (52) of the tool body (20) relative to the second portion (40) of the tool body (20) causes a pressure change in each channel (60) for plungers (50) that their passageway closed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 19-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Astle.

Refer above for the teachings of Astle.

Astle fails to teach the plurality of needles are mounted to the tool body in M columns and N rows. Astle further fails to teach the number of switches equal to $M + N$ and wherein the plurality for switches are adapted to provide signals to the addressing valves to individually control flow for each needle. Astle further fails to teach the plurality of switches includes M switches associated with M columns of needles, each of the M switches corresponding to and providing signals to valves for a corresponding column, and the plurality of switches further includes N switches associated with N rows of needles, each of the N switches corresponding to and providing signals to valves for a corresponding row.

It would have been obvious to a person of ordinary skill in the art to modify the device of Astle to provide a plurality of switches includes M switches associated with M columns of needles, each of the M switches corresponding to and providing signals to valves for a corresponding column, and the plurality of switches further includes N switches associated with N rows of needles, each of the N switches corresponding to and providing signals to valves for a corresponding row in order to increase through-put of the system. Also, examiner notes, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

Allowable Subject Matter

Claims 3 and 10-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to teach where

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the plurality of actuators includes a membrane valve that controls fluid flow with respect to a corresponding passageway.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JN



LYLE A. ALEXANDER
PRIMARY EXAMINER